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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,293	03/25/2004	Jens Meintschel	MB 390	6050

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EXAMINER	
ESHETE, ZELALEM	
ART UNIT	**PAPER NUMBER**
3748	

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/809,293	MEINTSCHEL ET AL.	
	Examiner	Art Unit	
	Zelalem Eshete	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the amendment filed on 03/21/2005.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1,2,5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yu (4,850,247) in view of Takahashi et al. (3,978,829).

Regarding claim 1: Yu discloses a device for the relative angular adjustment of shaft with respect to a drive wheel driving the shaft (see figure 5), comprising an epicyclic gear structure having drive-side ring wheel connected to the drive wheel (see numeral 2), planet wheel (see numeral 4) and a central sun wheel (see numeral 1), and driving the central sun wheel (see numeral 12), and a drive connection from the epicyclic gear structure to the shaft (see numeral 11), said drive connection being formed by an output-side ring wheel (see numeral 3) which is in meshing engagement with the planet wheel (see numeral 4).

Yu fails to disclose the application of the epicyclic gear adjustment system for variable valve timing adjustment and using actuating means to drive the system accordingly, and using different number of teeth for the ring gears.

Takahashi teaches application of the epicyclic gear adjustment system for variable valve timing adjustment (see figure 5) and using actuating means to drive the system accordingly (see numerals 106,66), and using different number of teeth for the ring gears (see column 17, lines 55 to 50).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Yu's device by implementing the epicyclic device in a variable timing system as taught by Takahashi in order to apply the mechanism in various angular adjustment devices.

Regarding claim 2: Takahashi discloses the claimed invention except for revering the assignment of the larger teeth in the drive system (see column 17, lines 50 to 65). It would have been obvious to one having ordinary skill in the art at the time the invention was made to assign the larger number of teeth to one of the gear drive system depending on transmission requirements, since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. *In re Einstein*, 8 USPQ 167.

Regarding claim 5: Yu as modified above discloses the claimed invention as recited above; and further more Takahashi further discloses the actuating means which is an electric servomotor (see numeral 66).

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yu in view of Takahashi, and further in view of Axmacher (6,523,512).

Yu as modified above discloses the claimed invention as recited above; however, fails to disclose the ring wheel has pot-shaped contour with an open side and the ring wheel is axially inserted into the interior of the ring wheel in such way that the two ring wheels are arranged coaxially adjacent one another with their internal toothing, and the drive-side ring wheel is supported

However, Axmacher discloses the ring wheel (see numeral 2) has "pot-shaped" contour with an open side and the ring wheel (see numeral 1.1) is axially inserted into the interior of the ring wheel in such way that the two ring wheels are arranged coaxially adjacent one another with their internal toothing (see numeral 1.2,2.2), and the drive-side ring wheel (see numeral 2) is supported on the output-side ring wheel (see numeral 1.1) via a roller bearing (see figure 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Yu as modified above by implementing the structural arrangement of the ring gears as taught by Axmacher in order to realize

various structural adaptations of the system shown by schematic drawing as taught by Yu.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yu in view of Takahashi, and further in view of Lammers (4,988,329).

Yu as modified above discloses the claimed invention as recited above; however, fails to disclose the planet wheels are inserted, free of shaft bearings, between a thrust washer on the ring wheel and a flange on the camshaft so that they are secured only in the axial direction.

However, Lammers teaches are substantially free floating and require no bearings to support the planetary set within the final drive housing (see column 2, lines 15 to 20).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Yu as modified above by implementing the structural arrangement of the planetary wheel as taught by Lammers in order to realize various structural adaptations of the system shown by schematic drawing as taught by Yu. It also would have been obvious to secure the planetary gear in axial direction in order to position the planetary gear in power transmission capability.

Response to Arguments

5. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zelalem Eshete whose telephone number is (571) 272-4860. The examiner can normally be reached on Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zelalem Eshete
Examiner
Art Unit 3748

Thomas Denion
THOMAS DENION
SUPERVISORY PATENT EXAMINER
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